The Necessity for Statistical Precision

Adequate nutrient intake by children and adolescents is fundamental to their short- and long-term health. When dietary records are used to assess nutrient sufficiency, there is no room for error. There are 3 errors in the article by Ballew and colleagues.[1]

First, the citation of "Hamrack et al" in the text and in reference 4 should have been Harnack et al. Second, there is a discrepancy between the text and the tabulated information. On page 1151, the authors state that the odds ratios (ORs) for the effect of carbonated soda (CS) on calcium intake range from 0.97 to 0.95. However, the ORs reported in Table 4 range from 0.99 to 0.95.

Third, ORs are multiplicative, not additive.[2] If the OR of 0.96 reported in Table 4 is correct, the influence of 8 oz of CS should have been calculated as $([1-0.96^8) \times 100$. When correctly calculated, the estimated reduction in the likelihood of achieving adequate calcium intake would be 28%, not the reported 40%. Similarly, 8 oz of milk would raise the likelihood of achieving adequate calcium intake by 1441% $(1.37^8-1)\times 100$, not 296%.

Effective public health guidance must be based on rigorous, objective science. Rigorous, objective science contains neither underestimations nor overestimations. Consumer believability and trust as well as pub-

lic health credibility are at stake if these foundations are not stable.

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1. Ballew C, Kuester S, Gillespie C. Beverage choices affect adequacy of children's nutrient intakes. *Arch Pediatr Adolesc Med.* 2000;154:1148-1152.
2. Liao T. *Interpreting Probability Models: Logit, Probit, and Other Generalized Linear Models.* Thousand Oaks, Calif: Sage Publications; 1994:10-21.

In reply

The errors Dr Baker points out are real but they are minor and in no way affect our results or conclusions.

We apologize for committing the 2 typographical errors that Dr Baker points out. The first is the misspelling of a citation (Harnack et al, reference 4).[1] The second is the discrepancy between statements in the text on page 1151 and in Table 4. The correct numbers are those presented in the Table.

Dr Baker is correct in pointing out that the OR should be raised to a power of 8 rather than multiplied by 8 to extrapolate from 1 oz of a beverage to 8 oz of a beverage. This change in no way alters the interpretation of our results, that drinking a glass of milk has a very profound positive effect on calcium intake, and drinking a glass of a carbonated beverage has a small but nevertheless statistically significant negative effect. In fact, the corrected extrapolations make our point even more strongly.

We apologize for the oversights in our original manuscript and welcome the opportunity to provide corrections to our published text.

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1. Harnack L, Stang J, Story M. Soft drink consumption among US children and adolescents: nutritional consequences. *J Am Diet Assoc.* 1999;99:436-441.